# Nematode control

In the northern grain region, the predominant root-lesion nematode (RLN), *Pratylenchus thornei* (*Pt*), costs the wheat industry AU$38 million annually. Including the secondary species, *P. neglectus* (*Pn*), RLN is found in three-quarters of fields tested. [1]

As information on nematode incidence and species type becomes available, the use of sunflowers as a management tool for nematodes is likely to increase because of the crop's resistance to both *Pt* and *Pn*. RLN are widespread in central and northern NSW, with *Pt* generally having a much higher distribution (69% of random paddocks) than *Pn* (32% of random paddocks). [2]

## 8.1 Resistant crops

Growing resistant crops such as sunflowers is the main tool for managing nematodes. In the case of crops such as wheat or chickpea, choose the most tolerant variety available and rotate with resistant crops to keep nematode numbers at low levels. Information on the responses of crop varieties to RLN is regularly updated in grower and Queensland Department of Agriculture, Fisheries and Forestry planting guides. Note that *Pt* and *Pn* may prefer different crops (see Table 1) or varieties. [3] Choose resistant crops to keep RLN numbers at low levels, avoid or limit the use of susceptible crops, and choose tolerant varieties to maximise yields.

**MORE INFORMATION**

GRDC The current and potential costs from diseases of wheat in Australia

http://www.soilquality.org.au/factsheets/root-lesion-nematode-in-queensland

**MORE INFORMATION**

http://www.grdc.com.au/Research-and-Development/GRDC-Update-Papers/2014/03/Latest-nematode-summer-and-winter-crop-rotation-results

**MORE INFORMATION**

GRDC Update Paper: Managing grain crops in nematode infested fields to minimise loss and optimise profit

1 GM Murray, JP Brennan (2009) The current and potential costs from diseases of wheat in Australia. GRDC Report, https://www.grdc.com.au/*/media/B4063ED6F63C4A968B3D7601E9E3FA38.pdf

2 L Serafin, S Belfield, D Herridge (2011) Sunflower yield performance and agronomy: Where and when do they fit best in the northern grains region? GRDC Updates Papers 13 Sept. 2011

3 QDAF (2009) Root-lesion nematodes. Management of root-lesion nematodes in the northern grain region. Department of Agriculture, Fisheries and Forestry Queensland, http://www.daf.qld.gov.au/__data/assets/pdf_file/0010/58870/Root-Lesion-Nematode-Brochure.pdf

**Table 1:** *Crop responses to Pratylenchus species.*

| Crop | *P. thornei* | *P. neglectus* |
|---|---|---|
| *Winter crops* | | |
| Barley | MS–MR | MS–MR |
| Canary seed | R | MS |
| Canola | R | S |
| Chickpea | S | S |
| Durum wheat | R | MS |
| Faba bean | S | R |
| Linseed | R | R |
| Oats | MR | MR |
| Triticale | MR | R |
| Wheat | S | S |
| *Summer crops* | | |
| Black gram | S | R |
| Cotton | R | — |
| Cowpea | S | R |
| Lablab | R | R |
| Maize | MR | MR |
| Millet<br>Japanese<br>Pearl<br>Siberian<br>White French | <br>R<br>MR<br>R<br>MR | – |
| Mungbean | S | R |
| Navy bean | S | MR |
| Panicum<br>Foxtail<br>Panorama<br>Pearl | <br>R<br>R<br>R | – |
| Pigeon pea | R | – |
| Sorghum, grain | R | S |
| Sorghum, forage | R | S |
| Soybean | S | R |
| Sunflower | R | R |

R, Resistant; S, susceptible; M, moderately; –, not tested.

## MORE INFORMATION

http://www.daf.qld.gov.au/__data/assets/pdf_file/0010/58870/Root-Lesion-Nematode-Brochure.pdf